

THE VASCULAR FLORA OF KENT ISLAND,
GRAND MANAN, NEW BRUNSWICK* ¹

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In the Grand Manan cluster of islands at the entrance of the Bay of Fundy there are three neighboring isles which are the Kent Island group. Kent, the largest, has 150 acres, Hay 50 and Sheep Island only 20. These somewhat remote islands are set off by themselves as the outermost of the Grand Manan Archipelago. Kent Island lies about 15 miles east of Cutler, Maine, the nearest point on the mainland.

Since Kent Island is an important nesting place for Herring gulls, Black guillemots, Leach's petrels and other pelagic birds it holds great interest for ornithologists and has been maintained as a biological station by Bowdoin College since 1934.

During the second and third seasons of the Kent Island station, Dr. David Potter of Clark University compiled lists of the vascular species of Kent and the two neighboring islands, the results of which were published in the first and third annual reports of the Bowdoin Scientific Station (1936) (1937). Unfortunately these lists did not receive wide circulation and only came to the attention of the second and third authors of this paper in 1966 through Dr. Philip Sawyer of the Zoology Department at the University of New Hampshire.

When Professor Charles A. Weatherby and John Adams published their excellent flora of Grand Manan (1945) there was no mention of Potter's lists nor of his collections which had been placed in the herbarium at Clark University. This is not surprising in view of the obscure publication of the lists, but it is much more difficult to explain the

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failure of communication between Professor Weatherby and Dr. Potter who knew each other and who must have met often at the Gray Herbarium and at meetings of the New England Botanical Club. Furthermore, Weatherby and Adams' paper made eighteen specific citations of plants growing on Kent or Hay Island.

In 1970 Pike and Hodgdon with Potter's lists in hand studied his collections at Clark University. Funds had been granted in support of this study and a subsequent field survey of the Kent Island flora. At about the same time they received, as editors of *Rhodora*, a letter from McCain, expressing interest in submitting a paper on the flora and vegetation of Kent Island. The present paper brings together all contributions to our knowledge of the Kent Island flora.

The first author (McCain) made extensive collections in 1968 and 1969 on Kent, Hay and Sheep Islands. His specimens are now deposited in the herbaria of the University of New Hampshire and Albion College, Albion, Michigan. The second and third authors visited Kent Island for two days in 1970 and were able to add a few additional taxa in groups of special interest to them. Their collections also have been placed in the herbarium of the University of New Hampshire.

Each of the four independent studies made of Kent and associated islands has added appreciably to the flora. The work of the senior author in 1968-69 resulted in 61 additions, and the most recent visit by Pike and Hodgdon supplied six more from Kent Island alone. It is doubtful, however, that further gleaning would be as profitable.

The composite list of species of vascular plants from Kent, Hay and Sheep now includes 142 genera with 240 species and 10 additional varieties representing 54 families. Any taxa not found on Kent Island are indicated in the following list as coming from Hay or Sheep, thus permitting an assessment of the total vascular flora of Kent Island itself. It should be noted also that twenty-eight species in

the flora have not been previously listed for Grand Manan. Most of these species are either halophytic or boreal.

The nomenclature is based essentially on Seymour (1969), the most up-to-date major treatment of vascular plants of the general region. However, the authors prefer not to follow Seymour in splitting off other genera from *Pyrus* and *Vaccinium* as these groups are conservatively understood. The blueberries and the Rosaceae, therefore, are listed according to the 8th Edition of *Gray's Manual*.

We wish to thank Dr. R. F. Nunnemacher for his special kindnesses to Pike and Hodgdon on the occasion of two pleasant visits to Clark University. All of us also were granted the utmost in hospitality by Dr. Charles E. Huntington, the director of the Bowdoin Science Station on Kent Island, during the course of our work. A grant from the University of New Hampshire Central University Research Fund (CURF 391) supported travel to Clark University and to Kent Island by Pike and Hodgdon. McCain's work on Kent Island was supported by National Science Foundation Undergraduate Research Participation Grants GY-4343 in 1968 and GY-6095 in 1969. He acknowledges the taxonomic advice of Dr. E. A. Stowell of Albion College and Dr. E. G. Voss and Dr. W. H. Wagner of the University of Michigan, and the support and encouragement of Dr. Clara L. Dixon of Albion College.

List of vascular plants found growing on Kent Island.

EQUISETACEAE

- Equisetum arvense* L. var. *boreale* (Bong.) Ledeb.
E. sylvaticum L. var. *pauciramosum* Milde.

LYCOPODIACEAE

- Lycopodium annotinum* L. var. *acrifolium* Fern.
L. obscurum L. forma *dendroideum* (Michx.) Blomquist & Correll. (Hay Island only)

OSMUNDACEAE

- Osmunda cinnamomea* L.

POLYPODIACEAE

- Onoclea sensibilis* L. (Hay Island only)

- * *Thelypteris palustris* (Salisb.) Schott var. *pubescens*
(Lawson) Fern.
Dryopteris spinulosa (O. F. Mueller) Watt. var. *ameri-*
cana (Fischer) Fern.
D. cristata (L.) Gray
- * *Dennstaedtia punctilobula* (Michx.) Moore
Athyrium filix-femina (L.) Roth. var. *michauxii*
(Sprengel) Farw. forma *rubellum* (Gilbert)
Farw.

PINACEAE

- Abies balsamea* (L.) Miller
Picea glauca (Moench.) Voss.
P. rubens Sarg.
P. mariana (Miller) BSP.
Larix laricina (DuRoi) K. Koch
- * *Juniperus communis* L. var. *depressa* Pursh.

TYPHACEAE

- * *Typha latifolia* L.

SPARGANIACEAE

- * *Sparganium americanum* Nutt.

ZOSTERACEAE

- Zostera marina* L. var. *stenophylla* Ascherson &
Graebner.

JUNCAGINACEAE

- Triglochin maritimum* L.
T. palustre L.

GRAMINEAE

- Festuca rubra* L. var. *rubra*
Puccinellia paupercula (Holm.) Fern. & Weath. var.
alaskana (Scribner & Merr.) Fern. & Weath.
Poa annua L.
- * *P. compressa* L.
P. pratensis L.
Poa palustris L.
Agropyron repens (L.) Beauv. forma *aristatum*
(Schum.) Holmb.
A. repens (L.) Beauv. forma *trichorrhachis* Rohlana.
A. repens (L.) Beauv. forma *pilosum* (Scribner) Fern.
Hordeum jubatum L.

Elymus arenarius L. var. *villosus* Meyer

* *E. virginicus* L.

Deschampsia flexuosa (L.) Trin.

Danthonia spicata (L.) Beauv.

Calamagrostis canadensis (Michx.) Nutt. var. *canadensis*

Ammophila breviligulata Fern.

* *Agrostis stolonifera* L. var. *major* (Gaud.) Farw.

A. stolonifera L. var. *palustris* (Hudson) Farw.

A. tenuis Sibth, forma *aristata* (Sinclair) Wiegand

* *A. scabra* Willd.

* *A. perennans* (Walter) Tuck.

* *Cinna arundinacea* L.

† *C. latifolia* (Trev.) Griseb.

Phleum pratense L.

Alopecurus pratensis L.

Spartina alterniflora Loisel.

Anthoxanthum odoratum L.

CYPERCEAE

* *Eleocharis smallii* Britton var. *major* (Sonder) Seymour

E. halophila Fern. & Brackett.

E. elliptica Kunth.

Scirpus americanus Pers.

* *S. atrovirens* Willd.

* *S. cyperinus* (L.) Kunth. forma *pelius* Fern.

S. atrocinctus Fern. (Hay Island only)

Eriophorum spissum Fern.

E. angustifolium Honckeney

E. virginicum L.

Carex stipata Muhl. (Hay Island)

C. trisperma Dewey

C. canescens L. var. *disjuncta* Fern.

* *C. canescens* L. var. *subloliacea* Laestad.

C. brunnescens (Pers.) Poiret. var. *sphaerostachya* (Tuck.) Kukenthal.

C. cephalantha (Bailey) Bickn.

* *C. tribuloides* Wahlenb.

C. hormathodes Fern.

RANUNCULACEAE

Ranunculus cymbalaria Pursh.

R. acris L.

Thalictrum polygamum Muhl. (Hay Island only)

Coptis groenlandica (Oeder) Fern.

CRUCIFERAE

Capsella bursa-pastoris (L.) Medicus

Cakile edentula (Bigelow) Hooker

Rorippa islandica (Oeder) Borbas var. *hispida* (Desv.)
Butters & Abbe.

* *R. islandica* (Oeder) Borbas var. *fernaldiana* Butters
& Abbe.

SARRACENIACEAE

Sarracenia purpurea L.

DROSERACEAE

Drosera rotundifolia L.

CRASSULACEAE

* *Sedum telephium* L. forma *purpureum* (L.) Seymour
S. rosea (L.) Scop.

SAXIFRAGACEAE

Ribes hirtellum Michx.

R. lacustre (Pers.) Poiret.

R. glandulosum Grauer.

ROSACEAE

Spiraea latifolia (Ait.) Borkh.

Pyrus malus L.

Pyrus floribunda Lindl.

Pyrus americana (Marsh) DC.

Pyrus decora (Sarg.) Hyland

Fragaria virginiana Duchesne

Potentilla norvegica L.

Potentilla anserina L.

Filipendula ulmaria (L.) Maxim. (Hay Island only)

Rubus chamaemorus L.

Rubus idaeus L. var. *canadensis* Richardson

Rubus hispidus L.

Rosa rugosa Thunb.

LEGUMINOSAE

Trifolium pratense L. var. *sativum* (Miller) Schreber
(Hay Island)

T. repens L.

T. agrarium L. (Hay Island only)

Vicia cracca L. (Hay Island only)

Lathyrus japonicus Willd. var. *pellitus* Fern.

OXALIDACEAE

Oxalis montana Raf.

CALLITRICHACEAE

Callitriche verna L. (Hay Island only)

EMPETRACEAE

Empetrum nigrum L.

BALSAMINACEAE

Impatiens capensis Meerb. forma *immaculata* (Weath.)
Fern. & Schub.

GUTTIFERAE

Hypericum virginicum L. var. *fraseri* (Spach.) Fern.

VIOLACEAE

Viola cucullata Aiton

* *V. septentrionalis* Greene

V. pallens (Banks) Brainerd

ONAGRACEAE

Epilobium angustifolium L.

* *E. palustre* L.

E. glandulosum Lehm. var. *adenocaulon* (Hausk.)
Fern.

Oenothera perennis L.

Circaea alpina L.

HIPPURIDACEAE

Hippuris vulgaris L. (Hay Island only)

ARALIACEAE

Aralia hispida Vent.

UMBELLIFERAE

Carum carvi L.

Ligusticum scothicum L.

Coelopleurum lucidum (L.) Fern.

Heracleum maximum Bartr. (Hay Island only)

CORNACEAE

Cornus canadensis L.

PYROLACEAE

Moneses uniflora (L.) Gray

* *Monotropa uniflora* L.

† *Monotropa hypopithys* L.

ERICACEAE

Ledum groenlandicum Oeder

* *Rhododendron canadense* (L.) Torrey

Kalmia angustifolia L.

* *Cassandra calyculata* (L.) D. Don. var. *angustifolia*
(Aiton) Seymour

* *Chiogenes hispidula* (L.) T. & G.

Vaccinium angustifolium Aiton. var. *laevifolium* House

V. vitis-idaea L. var. *minus* Lodd.

V. oxycoccus L.

‡ *V. oxycoccus* L. var. *ovalifolium* Michx.

PRIMULACEAE

Lysimachia terrestris (L.) BSP.

Trientalis borealis Raf.

Glaux maritima L.

PLUMBAGINACEAE

Limonium nashii Small

GENTIANACEAE

Menyanthes trifoliata L. var. *minor* Raf.

CONVOLVULACEAE

Convolvulus sepium L.

Convolvulus sepium L. forma *malachophyllus* Fern.

BORAGINACEAE

Mertensia maritima S.F. Gray

LABIATAE

Scutellaria epilobiifolia A. Hamilton

Galeopsis tetrahit L. var. *bifida* (Boenn.) Lej. & Court.

* *Lycopus virginicus* L.

Lycopus uniflorus Michx.

SCROPHULARIACEAE

Euphrasia randii B. L. Robinson (Sheep Island only)

Euphrasia americana Wettst.

Rhinanthus crista-galli L. var. *fallax* (Wimmer &
Grab.) Druce

PLANTAGINACEAE

* *Plantago major* L.

Plantago juncoides Lam. var. *decipiens* (Barneoud)
Fern.

* *Plantago juncoides* Lam. var. *glauca* (Hornem.) Fern.

† *Plantago oliganthos* R. & S.

RUBIACEAE

Galium trifidum L.

CAPRIFOLIACEAE

Lonicera canadensis Bartram

Linnaea borealis L. var. *americana* (Forbes) Rehder.

COMPOSITAE

* *Solidago sempervirens* L.

Solidago rugosa Miller var. *villosa* (Pursh.) Fern.

Solidago graminifolia (L.) Salisb. var. *nuttallii*
(Greene) Fern.

‡ *Solidago macrophylla* Pursh.

Aster foliaceus L. var. *arcuans* Fern.

* *Aster johannensis* Fern.

Aster acuminatus Michx.

* *Aster nemoralis* Aiton

‡ *Aster* × *Blakei* (Porter) House

Aster umbellatus Miller

Anaphalis margaritacea (L.) B.&H. var. *subalpina*
Gray.

* *Anaphalis margaritacea* (L.) B.&H. var. *intercedens*
Hara.

* *Gnaphalium uliginosum* L.

Ambrosia artimisiifolia L. var. *elatior* (L.) Descortils

* *Bidens cernua* L.

Bidens frondosa L.

Achillea millefolium L.

‡ *Matricaria maritima* L. var. *agrestis* (Knaf.) Wilmott.

Matricaria matricarioides (Less.) Porter

Chrysanthemum leucanthemum L. var. *pinnatifidum*
Lecoq. & Lamotte

Tanacetum vulgare L. (Hay Island only)

‡ *Senecio vulgaris* L.

Senecio sylvaticus L.

Cirsium vulgare (Savi) Tenore

Cirsium arvense (L.) Scop.

Leontodon autumnalis L. var. *pratensis* (Link.) W. D.
J. Koch

Taraxacum officinale Weber
Sonchus asper (L.) Hill.
Hieracium aurantiacum L.
Hieracium floribundum Wimm. & Grab.
Hieracium pratense Tausch.
Hieracium pilosella L.

STATISTICAL SUMMARY

54 Families
 142 Genera
 240 Species (or 239 spp. and 1 hybrid)
 10 Varieties

Unless otherwise noted, species were collected and identified by John McCain in 1968 and 1969.

* Species collected by Dr. David Potter 1935-1936.

† Species listed by C. A. Weatherby and J. Adams, 1945.

‡ Species collected by Dr. Albion Hodgdon and Radcliffe Pike in 1970.

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Correction in Book Review, Flora of the Galápagos Islands

The meaning of the sentence on lines 14-17 on page 144 of *Rhodora* for March 1973 is quite different from that intended. The sentence should read as follows: The presence of the endemic *Miconia* and *Cyathea* would seem to depend on reasonably moist conditions having obtained for some time in the areas where they are now growing or in places not far away.

Librarians and others who are interested in this review are advised to substitute the word *now* for *not*.

— A. R. HODGDON

INSTRUCTIONS FOR CONTRIBUTORS TO RHODORA

Manuscripts must be double-spaced or preferably triple-spaced (not on corrasable bond), and a list of legends for figures and maps provided on a separate page. Footnotes should be used sparingly, as they are usually not necessary. Do not indicate the style of type through the use of capitals or underscoring, particularly in the citations of specimens, except that the names of species and genera may be underlined to indicate italics in discussions. Specimen citations should be selected critically especially for common species of broad distribution. Systematic revisions and similar papers should be prepared in the format of "The Systematics and Ecology of Poison-Ivy and the Poison-Oaks," W. T. Gillis, *Rhodora* 73: 161-237, 370-443. 1971, particularly with reference to the indentation of keys and synonyms. Papers of a floristic nature should follow, as far as possible, the format of "Contribution to the Fungus Flora of Northeastern North America. V.," H. E. Bigelow & M. E. Barr, *Rhodora* 71: 177-203. 1969. For bibliographic citations, a recommended list of standard journal abbreviations is given by L. Schwarten & H. W. Rickett, *Bull. Torrey Bot. Club* 85: 277-300. 1958.

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